

B.Tech. - Mechanical / Civil Engineering / Electrical Engineering (NEP) Semester-II
STESC204 - Engineering Graphics and Design

P. Pages : 3

Time : Three Hours



GUG/S/25/16794

Max. Marks : 80

- Notes :
1. All questions carry equal marks.
 2. Solve Q. 1 or Q. 2, Q. 3 or Q. 4, Q. 5 or Q. 6, Q. 7 or Q. 8, Q. 9 or Q. 10.
 3. Due credit will be given to neatness and adequate dimensions.
 4. Assume suitable data wherever necessary.
 5. Use of slide rule, Logarithmic tables, Steam tables, Mollier's chart, Drawing instruments, Thermodynamic tables for moist air, Psychrometric charts and Refrigeration charts is permitted. Non Programmable Electronic Calculator is allowed.
 6. Retain all construction lines.
 7. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) Draw a rectangle having its sides 100 mm and 70 mm long. Inscribe a parabola in it. 8
- b) Explain following CAD commands in brief 8
- i) DIMRAD ii) SECTION
- iii) MOVE iv) CHAMFER

OR

2. a) In a triangle ABC side AB, BC & AC are 120 mm, 65mm & 80 mm resp. Draw an ellipse passing through A, B and C. 8
- b) What are the advantages and disadvantages of using FreeCAD compared to commercial CAD software? What are the common uses of FreeCAD in mechanical industries? 8
3. a) A line AB 90 mm long inclined at 45° to HP. Its front view measures 70 mm. Its end A is 20 mm above HP and in the VP. Draw the projection of line and find its inclination with VP. 8
- b) An equilateral triangular plane of sides 60 mm appears as an isosceles triangle of base side 60 and altitude 30 mm in front view. Draw its projection when the 60 mm side is inclined at 50° to HP. 8

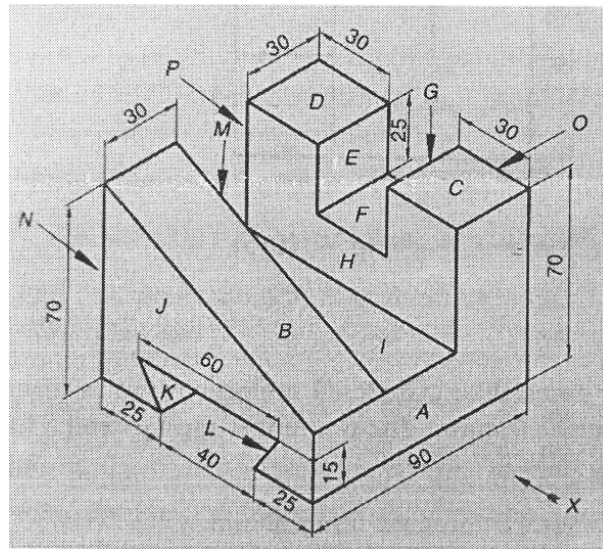
OR

4. a) A line AB 70 mm long is inclined at 50° to VP and 40° to HP. The point A is on HP and 20 mm in front of VP. Draw the projection of line. 8
- b) A line inclined at 50° to reference line represents the front view of a plane whose top view is regular hexagon with one side parallel to VP. Draw the projection of plane and find its true shape. 8

5. A square pyramid, side of base 35 mm and height 60 mm lies on one of its slant edge on the VP. The front view of axis is inclined at 45° with reference line, Draw the projections of pyramid. 16

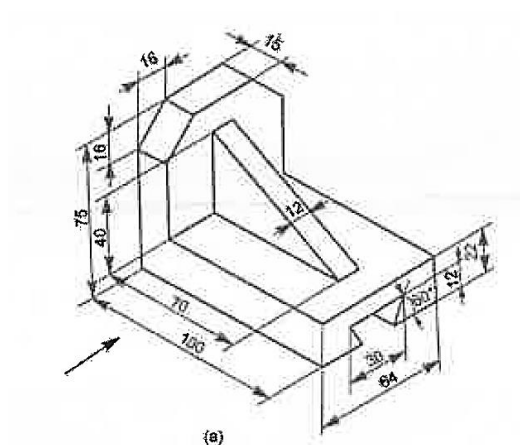
OR

- 6.** A solid cylinder with 50 mm diameter of base and 90 mm height is resting on VP on its base. It is cut by a section plane perpendicular to HP such that true shape of the section is an ellipse of major axis 70 mm and minor axis 50 mm. Draw projections including sectional view and true shape of section.
- 7.** Draw F.V, T.V and LHSV of the object whose Isometric View is given in the following fig. **16**

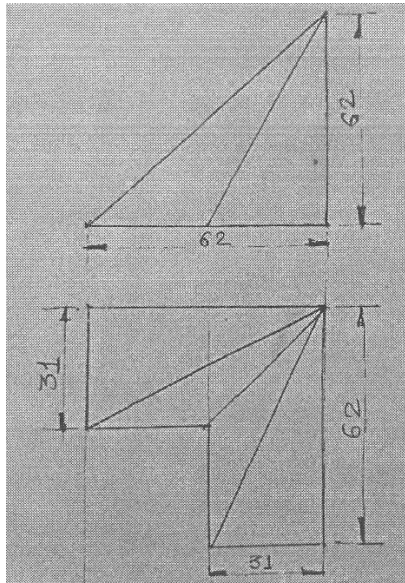


OR

- 8.** Draw F.V, T.V and RHSV of the object whose Isometric View is given in the following fig. **16**



9. Draw the Isometric projection of the following whose front and top views are given. 16



OR

10 Draw the Isometric view of the following whose front and top views are given.

16

